

Date: Wednesday, 4/5/2006 3:32:33 PM
 User: Kim Johnston

Process Sheet

Customer :	CU-DAR001 Dart Helicopters Services	Drawing Name :	AFT TUBE ASSEMBLY
Job Number :	26580		
Estimate Number :	10699		
P.O. Number :	NIA	Part Number :	D3391025
This Issue :	4/5/2006	S.O. No. :	NIA
Prsht Rev. :	NC	Drawing Number :	D3391 REV D
First Issue :	NIA	Project Number :	N/A
Previous Run :	26579	Drawing Revision :	D
	Type :	Material :	NIA
		Due Date :	4/28/2006
Written By :		Qty:	1 Um: Each
Checked & Approved By :	<i>[Signature]</i> 06.04.06		
Comment :	Est Rev B 06-02-07 ECN773 dwg rev. D EC Est Rev: C 06-03-28 Update Manufacturing Instructions JLM		

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	D6014090	ALUMINUM EXTRUSION
-----	----------	--------------------



Comment: Qty.: 1.0000 f(s)/Unit Total: 1.0000 f(s)

ALUMINUM EXTRUSION

Pick:

Qty	Part Number	Description	Batch
-----	-------------	-------------	-------

1	D6014-090	Extrusion	24315
---	-----------	-----------	-------

Identify as D3391-3 *MS 06/04/20*

2.0	MORI SEIKI	MORI SEIKI CNC LATHE LARGE
-----	------------	----------------------------



Comment: MORI SEIKI CNC LATHE LARGE

Turn as per Folio FA599

Rev: *AA* & Dwg D3391 Rev: *D**BG 06-04-22 1*

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

BG 06-04-22 1

4.0	HAAS1	HAAS CNC VERTICAL MACHINING #1
-----	-------	--------------------------------



Comment: HAAS

1-Machine as per Folio FA 599 Rev: *D* & Dwg D3391 Rev: *D*

2-Drill (PILOT HOLE) aft cap holes per Dwg D3391 using DT8803

3-Deburr

J.F. 06/05/11 1

Pro

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☐ No ☒ DQA: ☒ Date: 06.08.25
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06/05/11	4	Dimension 3.3" is 3.265" and dimension 3.520" is 3.489"		Set-up verify	J.F. 06/05/11			
06-05-16	4	Sec P-P of 3.520 is minor taper of 3.480 → 3.482 from Aft to Fwd. Sec AA-AA into Sec N-N tapers from 3.30 on Aft to 3.280 where Sec N-N begins to 3.265 at most forward on Sec N-N. Under tolerances.		Ensure section to be machined has no flex and is perfectly straight in the machine, before machining. To be Acceptable	N/A			

NOTE: Date & initial all entries

Date: Wednesday, 4/5/2006 3:32:33 PM
User: Kjm Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26580

Part Number: D3391025

Job Number:



Seq. #: Machine Or Operation: Description:

5.0

QC2

INSPECT PARTS AS THEY COME OFF MACHINE



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

J.F. 06/05/11

6.0

QC8

SECOND CHECK



Comment: SECOND CHECK

PG 06-05-31

7.0

BENDING

BENDING MACHINE



Comment: NC Bender

Form as per Dwg D3391 Using Bend Prog 3391025

DP 06-6-5

8.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BE-06-06-05

9.0

LANDING GEAR 1

LANDING GEAR RESOURCE 1



Comment: LANDING GEAR RESOURCE 1

1-Open Aft cap pilot hole to .208" as per Dwg D3391

2-Drill Tube as per D3391 using DT8809 (HOLES MARKED "A" ONLY)

3-Drill and c' sink wearshoe holes as per Dwg D3391 Using DT8878(Mid Tube) & DT8217 Wearplate Jig

4-C'sink holes for float bag (4 holes per side) as per Dwg D3391

5-Deburr

> DP 06-6-5

DP 06-6-20

DP 06-6-5

DP 06-6-20

Tools: rill

10.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

BE 06-06-26

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Acid etch and Alodine as per QSI 005 4.1

BT 06-07-05

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 4/5/2006 3:32:33 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26580

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

Q, m 06-08-01

0

13.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

PL 06/08/02

0

14.0

AESS10KB366

INSERT



Comment: Qty.: 14.0000 Each(s)/Unit Total: 14.0000 Each(s)

Insert

Pick:

Qty Part Number Description Batch

14 AESS10KB366 Insert

M 17905

15.0

NAS1330C3KB166



Comment: Qty.: 8.0000 Each(s)/Unit Total: 8.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

8 NAS1330C3KB166 Insert

M 18308

0

16.0

AESS10KB266

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

2 AESS10KB266 Insert

M 17905

or NAS1330C3KB266

17.0

AESS10KB316

INSERT



Comment: Qty.: 2.0000 Each(s)/Unit Total: 2.0000 Each(s)

INSERT

Pick:

Qty Part Number Description Batch

2 AESS10KB316 Insert

M 17905

or NAS1330C3KB316

PL 06/08/02

0

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 4/5/2006 3:32:34 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26580

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

D2646

Aft Cap



Comment: Qty.: 1.0000 Each(s)/Unit Total : 1.0000 Each(s)

Aft Cap

Pick:

Qty	Part Number	Description	Batch
1	D2646	Aft Cap	<u>B 25381</u>

19.0

AN3C4A

BOLT



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Bolt

Pick:

Qty	Part Number	Description	Batch
2	AN3C4A	Bolt	<u>M 101390</u>

20.0

AN960C10L

washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

Inventory

Pick:

Qty	Part Number	Description	Batch
2	AN960C10L	Washer	<u>M 100186</u>

21.0

NAS1515H3L

WASHER



Comment: Qty.: 2.0000 Each(s)/Unit Total : 2.0000 Each(s)

WASHER

Pick:

Qty	Part Number	Description	Batch
2	NAS1515H3L	Washer	<u>M 101620</u>

SC 06/08/08 (1)

22.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: SMALL & MEDIUM FAB RESOURCE 1

1-Install inserts as per Dwg D3391

2-Install Aft Cap as per Dwg D3391

A/R Sikaflex-241/-291 M 101193

Sikaflex expiry date: 11/2006

SC 06/08/08 (1)
PL

SC 06/08/08 (1)
PL

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 4/5/2006 3:32:34 PM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: AFT TUBE ASSEMBLY

Job Number: 26580

Part Number: D3391025

Job Number:



Seq. #:

Machine Or Operation:

Description :

23.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

2008-17 (1)

24.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: N/A

DL 06/08/08 (1)

25.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

2006-08-25

Job Completion



2008-24

Dart Aerospace Ltd

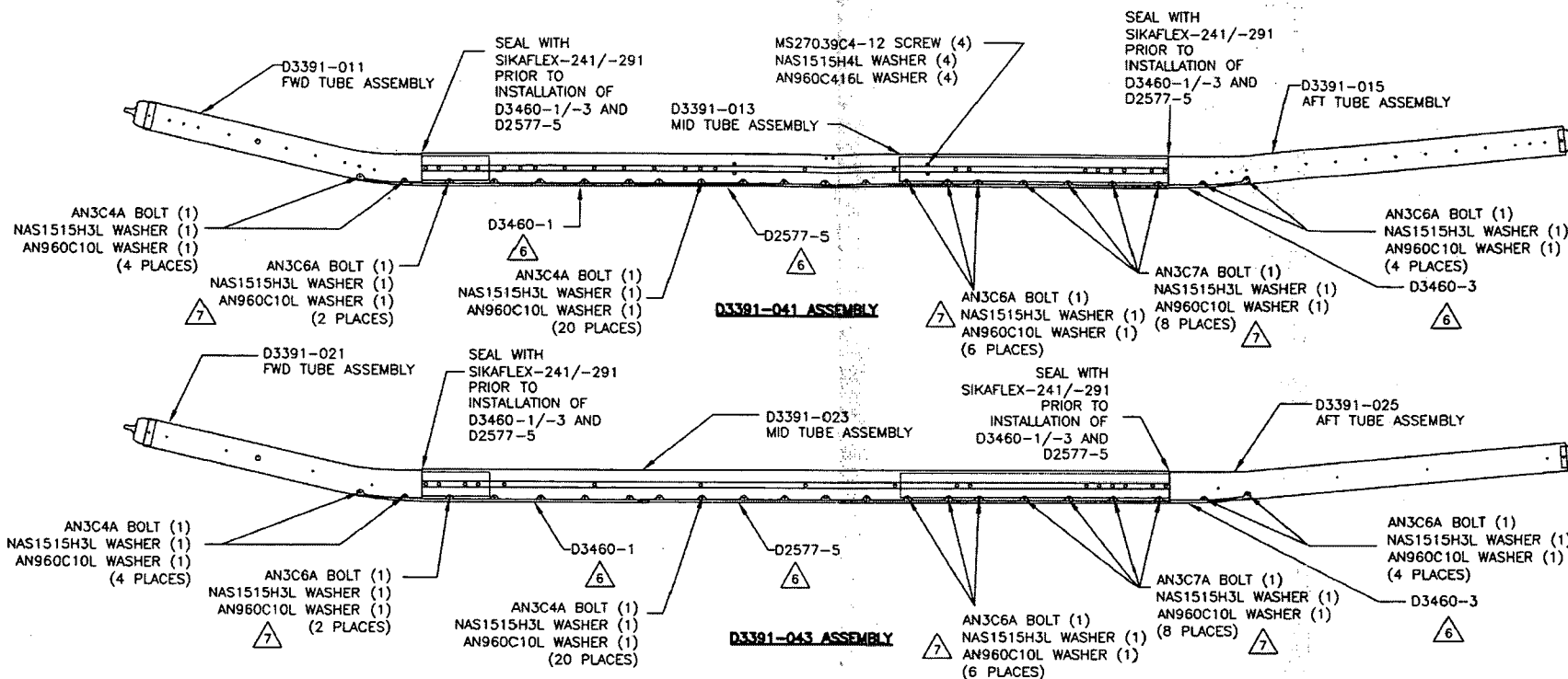
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3391-041/-043 FLOAT SKIDTUBE ASSEMBLY PARTS LIST

QTY - 041	QTY - 043	PART NUMBER	DESCRIPTION
X	X	D3391-041	FLOAT SKIDTUBE ASSEMBLY
		D3391-043	FLOAT SKIDTUBE ASSEMBLY
1		D3391-011	FWD TUBE ASSEMBLY
1		D3391-013	MID TUBE ASSEMBLY
1		D3391-015	AFT TUBE ASSEMBLY
	1	D3391-021	FWD TUBE ASSEMBLY
	1	D3391-023	MID TUBE ASSEMBLY
	1	D3391-025	AFT TUBE ASSEMBLY
24	24	AN3C4A	BOLT
12	12	AN3C6A	BOLT
8	8	AN3C7A	BOLT
44	44	NAS1515H3L	WASHER
44	44	AN960C10L	WASHER
4		MS27039C4-12	SCREW
4		NAS1515H4L	WASHER
4		AN960C416L	WASHER
1	1	D2577-5	WEARSHOE
1	1	D3460-1	WEARSHOE
1	1	D3460-3	WEARSHOE

GENERAL NOTES

- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- FINISH: ACID ETCH AND ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (4.3.5.1) PER DART QSI 005 4.3
- SPRAY INSIDE OF TUBE WITH A COAT OF LPS LABORATORIES "LPS-3" AFTER FINISH AND AFTER INSTALLATION OF INSERTS. COAT ALL EXPOSED FASTENERS WITH LPS LABORATORIES "LPS PROCYON" AFTER FINAL ASSEMBLY. CLEAN EXCESS OFF POWDER COATING WITH MEK DEGREASER.
- USE DART DRILL TEMPLATE DT8217 TO LOCATE AND DRILL 'E' SIZE HOLES (#0.250-#0.257) FOR WEARSHOE INSERTS.
- C/SINK #0.391/#0.425 x 100" AS APPLICABLE AND INSTALL INSERTS EXCEPT WHERE INDICATED.
- APPLY A LAYER OF SIKAFLEX -241/-291 ADHESIVE BETWEEN THE BOTTOM OF THE SKIDTUBE ASSEMBLY AND THE WEARPLATES
- DO NOT TORQUE, HAND TIGHTEN ONLY

△

RELEASED

06.01.27

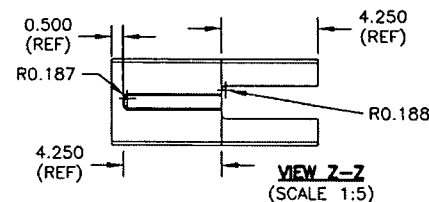
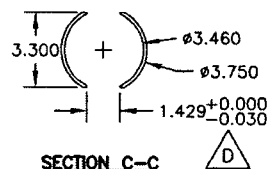
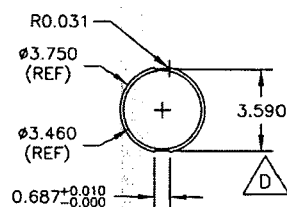
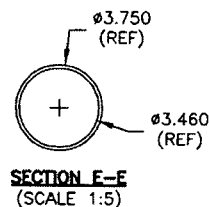
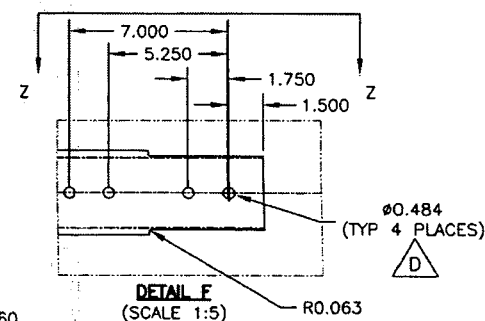
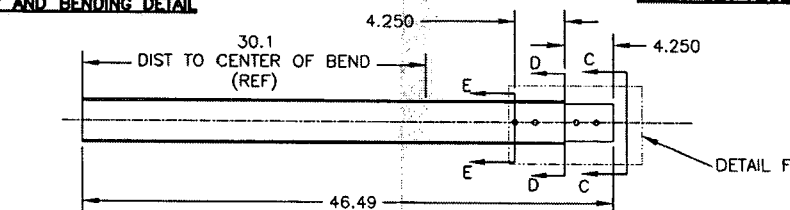
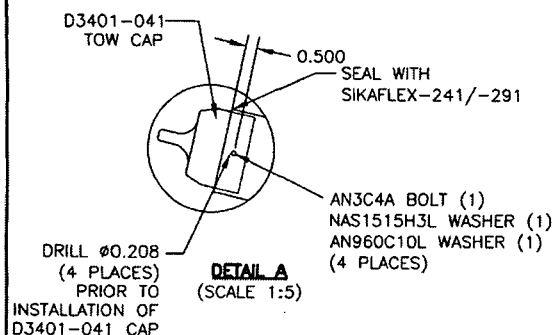
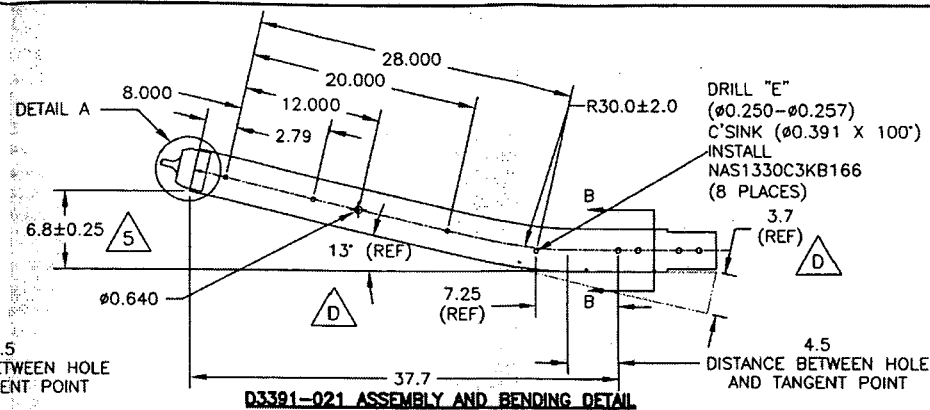
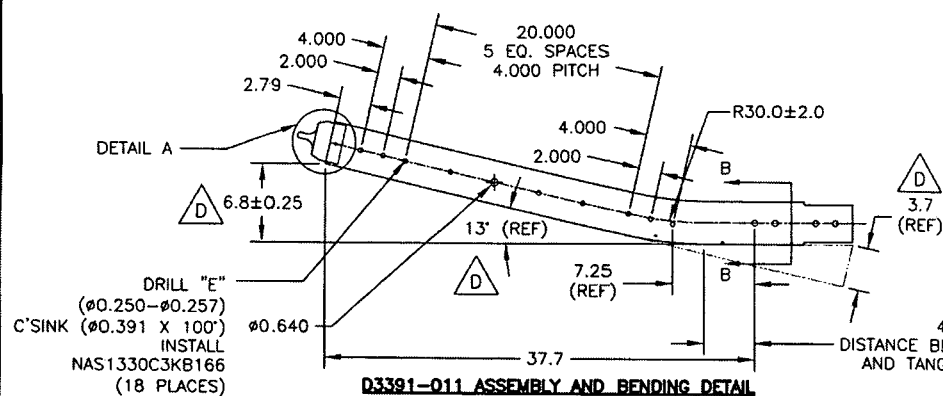
D	06.01.23	UPDATE TOLERANCE, CHANGE HOLE SIZE
C	05.09.27	LENGTHEN AFT EXTENSION
B	05.06.10	DRAWING UPDATES
A	05.02.07	NEW ISSUE

COPYRIGHT © 2005 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

DESIGN	PH	DRAWN BY	PH	DART DART AEROSPACE USA, INC. FORT WORTH, TX
CHECKED	#	APPROVED	#	DRAWING NO. D3391
DATE	06.01.23	TITLE	412 FLOAT SKIDTUBE	REV. D SHEET 1 OF 5
		SCALE	NTS	

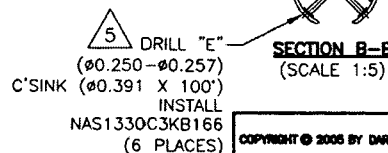
NO. 20080
SUBJECT TO AMENDMENT
WITHOUT NOTICE
UNCONTROLLED COPY
ENGINEERING
RETURN TO
SHOP COPY
+
NO. 20080



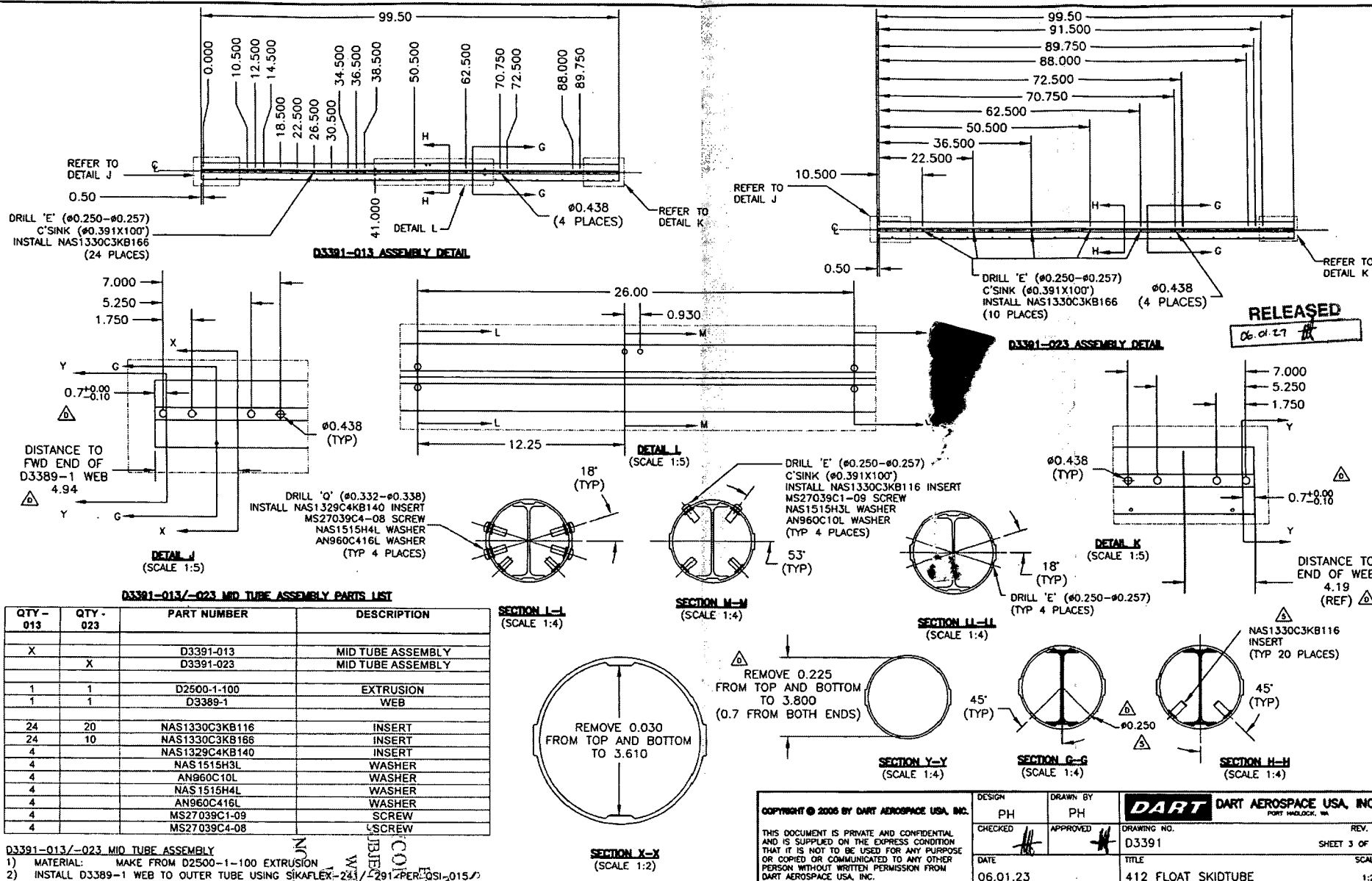
D3391-011/-021 FWD TUBE ASSEMBLY PARTS LIST

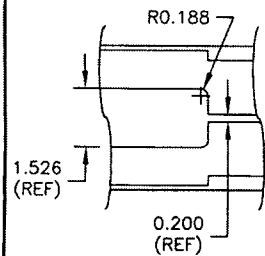
QTY - 011	QTY - 021	PART NUMBER	DESCRIPTION
X		D3391-011	FWD TUBE ASSEMBLY
	X	D3391-021	FWD TUBE ASSEMBLY
1	1	D6013-047	FWD TUBE
1	1	D3401-041	TOW CAP
4	4	AN3C4A	BOLT
4	4	NAS1515H3L	WASHER
4	4	AN960C10L	WASHER
24	14	NAS1330C3KB166	INSERT

SHOP COPY
 RETURN TO
 ENGINEERING
 UNCONTROLLED COPY
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 26580

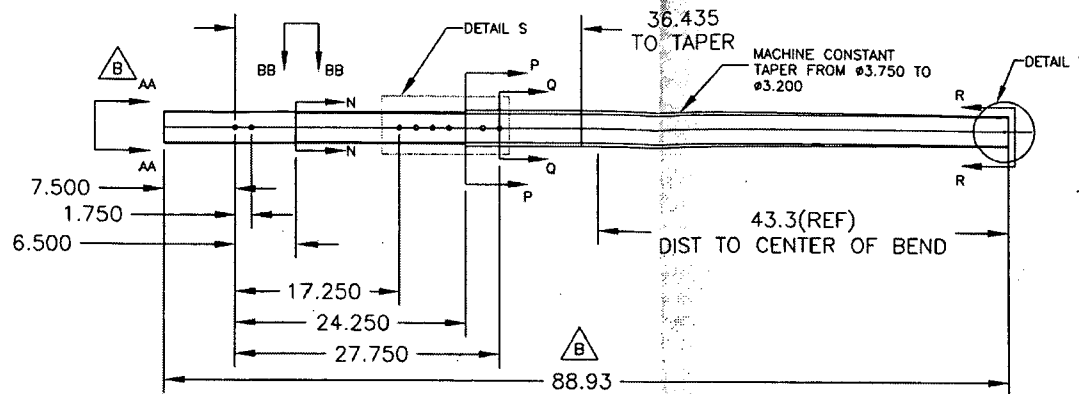


COPYRIGHT © 2005 BY DART AEROSPACE USA, INC.		DESIGN	DRAWN BY	DART AEROSPACE USA, INC.	
PH	PH	PH	PH	PORT HADLOCK, MA	
CHECKED	APPROVED	DRAWING NO.	REV. D		
DATE	06.01.23	D3391	SHEET 2 OF 5		
TITLE		SCALE			
412 FLOAT SKIDTUBE		1:10			

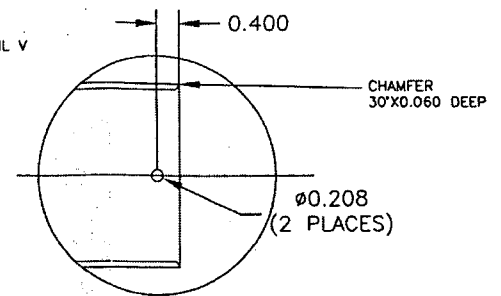




VIEW BB-BB
(SCALE 1:3)

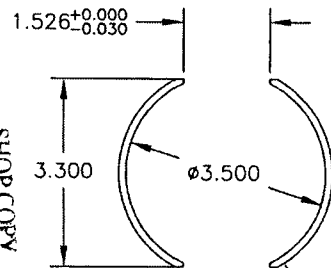


D3391-3 AFT DRILLING AND CUTTING DETAIL
(MAKE FROM D6014-090 SKIDTUBE MATERIAL)

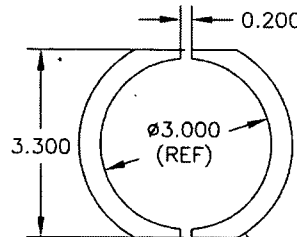


DETAIL V
(SCALE 1:2)

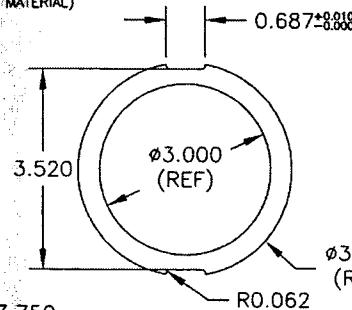
RELEASED
06.01.23



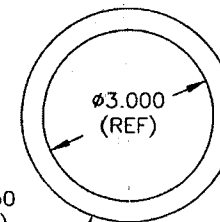
SECTION AA-AA
(SCALE 1:2)



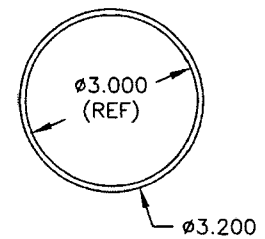
SECTION N-N
(SCALE 1:2)



SECTION P-P
(SCALE 1:2)

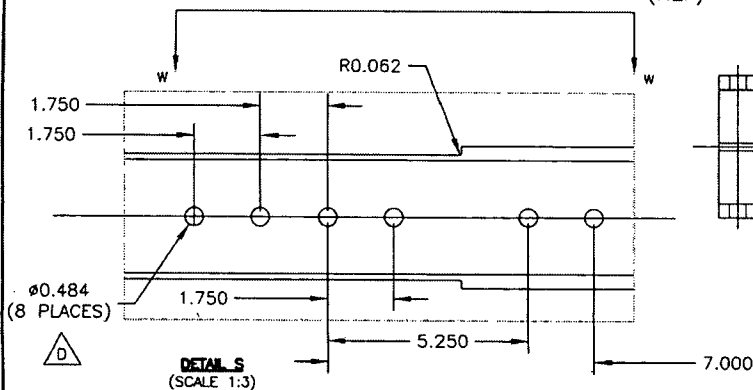


SECTION Q-Q
(SCALE 1:2)

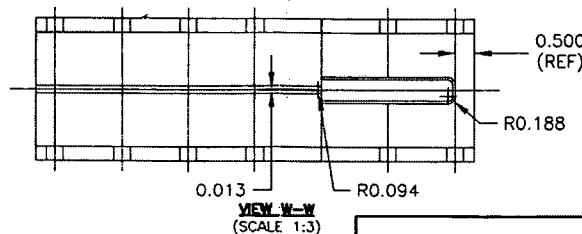


SECTION R-R
(SCALE 1:2)

NO. 26580
WORK ORDER
SUBJECT TO AMENDMENT
WITHOUT NOTICE
UNCONTROLLED COPY
RETURN TO
ENGINEERING
SHOP COPY



DETAIL S
(SCALE 1:3)



VIEW W-W
(SCALE 1:3)

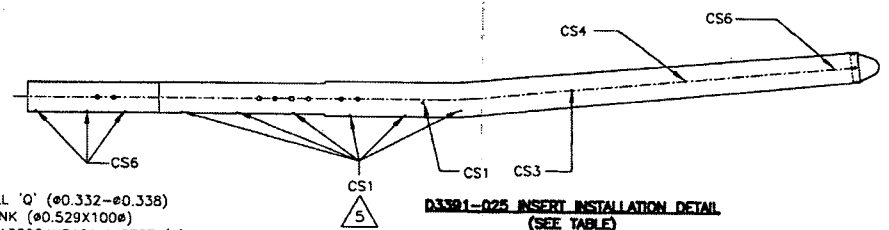
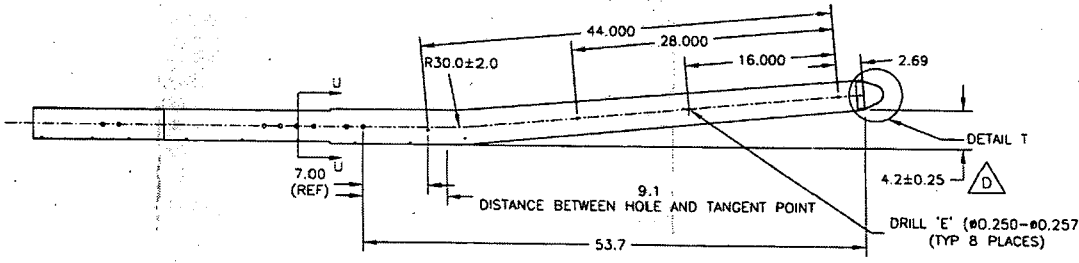
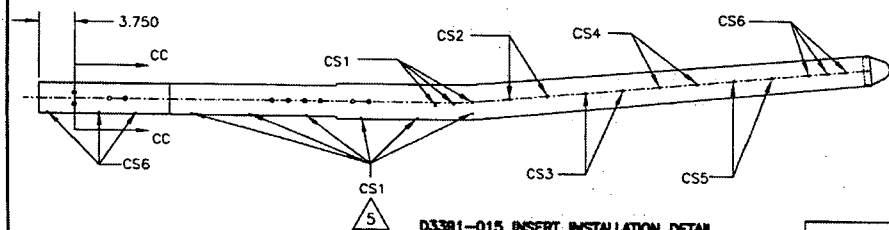
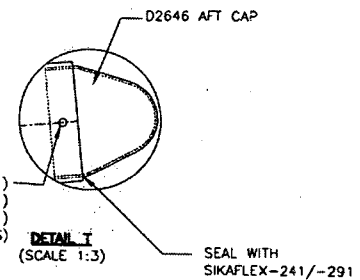
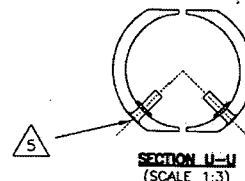
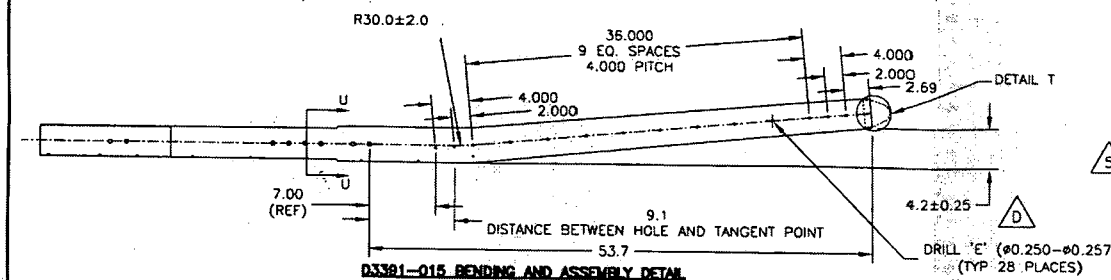
COPYRIGHT © 2005 BY DART AEROSPACE USA, INC.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL
AND IS SUPPLIED ON THE EXPRESS CONDITION
THAT IT IS NOT TO BE USED FOR ANY PURPOSE
OR COPIED OR COMMUNICATED TO ANY OTHER
PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE USA, INC.

DESIGN	PH	DRAWN BY	PH
CHECKED	#	APPROVED	#
DATE	06.01.23		

DART DART AEROSPACE USA, INC. PORT HADLOCK, MA	REV. D
DRAWING NO. D3391	SHEET 4 OF 5
TITLE 412 FLOAT SKIDTUBE	SCALE 1:12

RELEASED
06.01.27

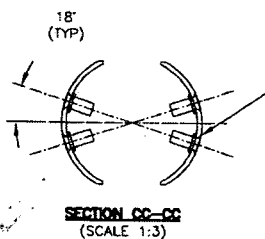


C'SINK AND INSTALL AESS10KBXXX AND/OR NAS1330C3KBXXX IN HOLES MARKED CS1-CS6 AS FOLLOWS

HOLES MARKED	QTY D3391-015	QTY D3391-025	C'SINK	PIN
CS1	18	14	Ø0.425	AESS10KB366
CS2	4		Ø0.391	AESS10KB366
CS3	4	2	Ø0.391	NAS1330C3KB316
CS4	4	2	Ø0.391	NAS1330C3KB266
CS5	4		Ø0.391	NAS1330C3KB216
CS6	12	8	Ø0.391	NAS1330C3KB166

D3391-015/-025 AFT TUBE ASSEMBLY PARTS LIST

QTY - 015	QTY - 025	PART NUMBER	DESCRIPTION
X		D3391-015	AFT TUBE ASSEMBLY
	X	D3391-025	AFT TUBE ASSEMBLY
1	1	D6014-090	AFT TUBE
1	1	D2646	AFT CAP
18	14	AESS10KB366	INSERT
4	2	NAS1330C3KB316	INSERT
4	2	NAS1330C3KB266	INSERT
4		NAS1330C3KB216	INSERT
12	8	NAS1330C3KB166	INSERT
4		NAS1330C4KB151	INSERT
2	2	AN304A	BOLT
2	2	NAS1515H3L	WASHER
2	2	AN960C10L	WASHER



Copyright © 2005 by DART Aerospace USA, Inc.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART Aerospace USA, Inc.

DESIGN PH
CHECKED [Signature]
DATE 06.01.23

DRAWN BY PH
APPROVED [Signature]

DART AEROSPACE USA, INC.
PORT HADLOCK, MA

DRAWING NO. D3391
TITLE 412 FLOAT SKIDTUBE

REV. D
SHEET 5 OF 5
SCALE 1:12

WORK ORDER 26580
CONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
ENGINEERING
RETURN TO
SHOP COPY

FIRST ARTICLE INSPECTION CHECKLIST

☐

First Article

☐

Prototype

	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
14.000	$\pm .01$	14.000	✓			
3.500	$\pm .01$	3.497	✓			
88.93	$\pm .03$	88.93	✓			
3.200	$\pm .01$	3.202	✓			
R0.188"	$\pm .010$ "	R0.188"				
1.526"	$\pm .030$ "	1.520"				
.200"	$\pm .010$ "	.200"				
7.500"	$\pm .010$ "	7.495"				
1.750"	$\pm .010$ "	1.751"				
6.500"	$\pm .010$ "	—				
17.250"	$\pm .010$ "	—				
24.750"	$\pm .010$ "	—				
27.750"	$\pm .010$ "	—				
36.435"	$\pm .010$ "	—				
3.300"	$\pm .010$ "	3.265"				
3.520"	$\pm .010$ "	3.489"				
.687"	$\pm .010$ "	.687"				
Ø.484"	$\pm .006$ "	.487"				
5.250"	$\pm .010$ "	5.250"				
R0.062"	$\pm .010$ "	R0.062				
R0.094"	$\pm .010$ "	R0.094				
.400"	$\pm .010$ "					

Meas: BG/JF

Audited by:

SA

Prototype Approval:

MA

Date: 06.04.22

Date:

06.05.31

Date:

Rev: Date: Change: Issue

Revised by: KJ/RF

Approved

SA

